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May 26, 1993

Mr. Rob Ogilvie
EPA Region IX
Office of Regional Counsel (RC-3-3)
75 Hawthorne Street
San Francisco, California 94105

RE: Hassayampa Landfill Superfund Site Revised Non-binding Preliminary Allocation of Responsibility (NBAR)

Dear Rob:

As requested through the National Enforcement Investigations Center (NEIC), the Contract Evidence Audit Team (CEAT-TechLaw) is transmitting one bound copy of the Hassayampa Landfill Superfund Site Revised NBAR report.

If you have any questions regarding this information, feel free to call us at (303) 233-1248.

Sincerely,



Bonnie Brödenfeld
Group Leader

BB/eap

Enclosure

cc: Paula Smith, NEIC (w/enclosure)
Kaye Mathews, NEIC (w/enclosure)
Bill von Schulz, CEAT (w/enclosure)

IF: 232-620

HASSAYAMPA LANDFILL SUPERFUND SITE**REVISED NON-BINDING PRELIMINARY
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Submitted On:

May 21, 1993

The support provided by the CEAT was done so on behalf of the Environmental Protection Agency's (EPA) National Enforcement Investigations Center (NEIC) under EPA contract 68-W0-0001.

HASSAYAMPA LANDFILL SUPERFUND SITE

**REVISED NON-BINDING PRELIMINARY
ALLOCATION OF RESPONSIBILITY**

Environmental Protection Agency Region IX
75 Hawthorne Street
San Francisco, California 94105

This Revised Non-binding Preliminary Allocation of Responsibility (NBAR) is being provided pursuant to CERCLA Section 122(e)(3). NBARs are not binding on the government or potentially responsible parties (PRPs) and cannot be submitted as evidence or reviewed in any judicial proceeding, including citizen suits.

The rationale for this NBAR and its underlying assumptions are specific to the Hassayampa Landfill site. This NBAR does not constitute rulemaking by the Environmental Protection Agency and may not be relied upon to create a right or benefit, substantive or procedural, enforceable at law or in equity, by any person.

HASSAYAMPA LANDFILL SUPERFUND SITE

REVISED NON-BINDING PRELIMINARY ALLOCATION OF RESPONSIBILITY

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1.0 INTRODUCTION

In August 1991, EPA Headquarters Office of Enforcement, Superfund Division requested the National Enforcement Investigations Center's (NEIC) assistance in developing a Non-binding Preliminary Allocation of Responsibility (NBAR) from an existing transactional database. In October 1991, EPA Headquarters, in consultation with EPA Region IX, selected the Hassayampa Landfill site for the NBAR project.

NEIC assigned a portion of the NBAR project to the Contract Evidence Audit Team (CEAT-TechLaw), NEIC's evidence audit contractor. The CEAT was asked to develop computer programs which would revise the Hassayampa Landfill volumetric ranking report prepared by the CEAT in 1988, and to assist in the production of the NBAR. Bonnie Brödenfeld was designated as the CEAT Group Leader, Steve Kupecz and Evan McGinley were designated as the CEAT Project Managers, and John Engle was designated as the CEAT Programmer/Analyst. The development of the NBAR has been a cooperative effort involving EPA Headquarters, EPA Region IX, NEIC, and the CEAT (the NBAR team).

On September 28, 1992, the CEAT submitted the original NBAR to the EPA Region IX case team. The EPA Region IX case team sent the original NBAR to the potentially responsible parties (PRPs) at the Hassayampa Landfill site with the special notice letters issued to them on September 30, 1992. Like the original NBAR report, this revised report contains the guidelines and assumptions used by the CEAT in the development of the original 1988 Hassayampa Landfill volumetric ranking as well as the procedures used by EPA Headquarters, EPA Region IX, NEIC, and the CEAT in developing the Hassayampa Landfill NBAR. This report also contains revised volumetric ranking summaries for both generators and transporters. The volumetric rankings are sorted by original volume, revised volume, and alphabetically by party name.

Although this revised NBAR is very similar to the original NBAR issued by EPA, the volumes attributed to certain parties have been modified. These modifications are identified in the "Data Review" section of this revised NBAR report.

2.0 PROJECT PROCEDURES

PHASE ONE: DEVELOPMENT OF THE ORIGINAL VOLUMETRIC RANKING

The original 1988 Hassayampa Landfill volumetric ranking was used as the baseline for the NBAR. The 1988 volumetric ranking was developed independently of the 1987 "Ranking of Generators by Volume of Waste Disposed - Hassayampa Landfill Site" list. Below are summaries of guidelines and assumptions used by the CEAT in preparing the 1988 volumetric ranking.

Documentation

The waste transaction documents from which the information was initially extracted consisted primarily of Arizona Hazardous Waste Manifests (manifests). The manifests were compared to Manifest Logs and Facility Disposal Area Logs to confirm the accuracy of the transactions. Transactional information from manifests marked "Void" was not included in the volumetric ranking summaries used for the NBAR.

Generator/Transporter Names

The party name listed in the volumetric ranking was the name indicated on the documentation.

Quantities and Units

The total quantity of waste per transaction was converted to gallons using conversion factors listed in Appendix A.

Unit Conversion Factors

Unit conversion factors for each container type were used to change each transaction's waste volume to gallons (see Appendix A for a list of unit conversion factors).

The conversion factors used with the 1988 data were obtained from the Arizona Department of Health Services (ADHS). For units that were not found on the ADHS list, a conversion factor of one (1) or zero (0) gallon(s) was used, as determined by the EPA Region IX Toxics and Waste Management Division contact (now known as the Hazardous Waste Management Division) and by ADHS. During the data review process (see the Data Review section below), the EPA Region IX case team determined that the former zero conversion factors should be changed to a conversion factor of one gallon. This change affected the following container types: bags, carboys, cartons, pads, and solvent bottles. When these conversion factors were used in calculating the total waste contributed by a party, that party's entry in the volumetric ranking summary was marked with an asterisk (*).

When a manifest documented a transaction of empty container(s), the conversion factor assigned was 10% of that container type's volume. For example, an empty drum with a capacity of 55 gallons was assigned a conversion factor of 10% of 55 gallons, or 5.5 gallons. When this conversion factor was used in calculating the total waste contributed by a party, that party's entry in the volumetric ranking summary was marked with a plus sign (+).

Calculations

After quantities of waste for each transaction had been converted to gallons, the CEAT determined the total volume and relative percentage of waste contributed by each party, and the total volume of waste contributed by all parties (see Appendix B for the volumetric ranking calculations).

PHASE TWO: DEVELOPMENT OF THE NON-BINDING PRELIMINARY ALLOCATION OF RESPONSIBILITY

The following is a summary of the procedures conducted by the NBAR team in incorporating the 1988 Hassayampa Landfill volumetric ranking into the original NBAR and the revised NBAR. All procedures were determined in consultation with the EPA project contacts.

Data Review

In December 1991, the guidelines used in developing the 1988 volumetric ranking were reviewed by the CEAT to ensure that they were used consistently in preparing the original data. This resulted in the CEAT review of a sample of the 1988 data.

As a result of this initial review, only one revision was made. It was determined that the total volume attributed to AD&D Salvage and Disposal, Inc. (AD&D) should be changed from the 1988 volumetric ranking total of 1,375.00 gallons, to a revised total of 3,870.00 gallons. More specifically, when reviewing the manifest for one of the three AD&D transactions, the CEAT noted that the 55.00 gallons assigned to the transaction in 1988 was incorrect. The manifest for this transaction indicated that forty-five 55-gallon drums and thirty 1-gallon drums were involved in the

transaction. This revision and the change in the conversion factors (from zero to one gallon) resulted in a 2,495.00 gallon increase in the volumetric total for AD&D.

As a result of the December 1991 review and based on discussions with the EPA Region IX case team, it was also determined that the 82 FTW/FMS Electroplating Shop was a shop at Williams Air Force Base. The wastes previously attributed to the electroplating shop were, therefore, attributed to Williams Air Force Base.

Also during this review, the CEAT noted that several parties appeared more than once on the 1988 volumetric ranking. Based on discussions with the EPA Region IX case team, the CEAT combined the total volumes for parties which were duplicated by name on the volumetric ranking. For parties with similar but not identical name listings, the EPA Region IX case team determined which totals were combined.

One final change was made to the 1988 data during the December 1991 reviews. The EPA Region IX case team determined that the zero (0) conversion factors assigned to bags, carboys, cartons, pads, and solvent bottles should be changed to a conversion factor of one (1) gallon.

In February 1992, the EPA Region IX case team requested that the CEAT conduct a second review of the 1988 data. This review focused on transaction records in the database for which no date of disposal was recorded. The EPA Region IX case team suspected that wastes were not disposed of at the landfill in those instances where the Hazardous Waste Facility portion of the manifest was incomplete and there was no disposal date on the corresponding manifest log (log) entry. The CEAT manually searched the log and identified 91 entries without disposal dates. In each case, when the log's disposal date was blank, the hazardous waste facility section of the manifest was also blank or incomplete (no date and signature). The EPA Region IX case team decided that these entries should be deleted from the data and, therefore, these waste quantities do not appear in the volumetric ranking.

Following the manual search of the log, the CEAT conducted a computer search of the database for entries without disposal dates. The computer search identified additional entries which, upon further review, represented the following transactions:

- Transactions for which the manifest was not marked "Void," and the log entry was marked "Void."

The EPA Region IX case team regards the log as the determining factor as to whether the waste was considered delivered to the facility. These entries, therefore, were deleted from the data.

- Transactions for which the hazardous waste facility section of the manifest was incomplete, but the log indicated a disposal date.

The EPA Region IX case team decided that these entries should remain in the data because the log is considered the determining factor as to whether the waste was considered delivered to the facility.

This review of the manifests and disposal dates resulted in the deletion of 97 entries from the 1988 data. The deleted entries included all of the disposal transactions for the following parties who were, therefore, deleted from the volumetric ranking:

- Companies deleted from the Generator Volumetric Ranking

ADR Ultrasound dba Advanced Technology Laboratories
 Bud's Oil Service Inc.
 Green Genie Nursery
 Penn Athletic Products
 Perry Rehabilitation Center
 Pierce Aviation
 Southwest Ink Company

- Companies deleted from the Transporter Volumetric Ranking

Bud's Oil Service Inc.
 Pierce Aviation
 Southwest Ink Company
 Southwest Solvent

In February 1993, the EPA Region IX case team revised the volumes of seven of the parties listed in the original NBAR issued by the EPA dated September 28, 1992. Listed below are the seven parties whose volumes were revised along with a brief explanation of why the revision was necessary.

Arizona Public Service Company (APS)

In correspondence with EPA, APS asserted that four manifests which appeared to document four shipments of 40 tons each, actually represented four 10-ton shipments which totalled 40 tons. After reviewing the evidence presented by APS to support this claim, EPA has accepted this interpretation of the APS manifests. APS's volumetric share has not decreased, however, because the four manifests in question also list the volume of waste sent by APS as 7,000 cubic feet. Since cubic feet is a measure of volume, it is more appropriate to convert this 7,000 cubic feet figure into gallons than to convert the 40 tons (a measure of weight) into gallons. When 7,000 cubic feet is converted into gallons it yields a volume of 52,360 gallons. Adding 52,360 gallons to the other 1,924 gallons sent by APS yields a total volume of 54,284 gallons.

Bean & Company

Four of Bean & Company's manifests (manifest numbers 1329 through 1332) do not list a quantity. These four manifests appear to be for the same type of wastes contained in manifests 1505 and 1506, which both list a quantity of 600 cubic feet. Therefore, EPA ascribed a volume of 600 cubic feet to manifests 1329 through 1332. After making this assumption, Bean & Company's total volume was recalculated to be 23,988 gallons.

Bechtel Power Corporation

On two of Bechtel's manifests (manifest numbers 0232 and 0601) it appeared that the same volume was listed under the "bulk volume" and the "containers" sections of the manifests. Therefore, in order not to count this volume twice, EPA only counted the volume listed

under the "containers" section of manifest numbers 0232 and 0601. Excluding the bulk volume recorded on these two manifests, Bechtel's volume was recalculated to be 12,251 gallons.

Deer-O Paint & Chemicals ("Deer-O")

Two of Deer-O's manifests did not indicate a volume (manifest numbers 0047 and 0048). These two manifests appear to be for the same type of wastes contained in manifest numbers 1411, 1412, and 1433, each of which lists a volume of 2,000 gallons. Therefore, the EPA ascribed a volume of 2,000 gallons to manifest numbers 0047 and 0048, bringing the total volume for Deer-O to 10,000 gallons.

GTE Communications (EMM Semi, Inc.)

Six of the manifests for EMM Semi, Inc. and GTE Communications (manifest numbers 0430, 0555, 1075, 1080, 1338, and 1339) indicated that solvent bottles were sent to the Hassayampa site but did not list the quantity of solvent bottles. Since manifest number 1558 indicated a quantity of 850 empty one-gallon solvent bottles, EPA ascribed a quantity of 850 empty one-gallon solvent bottles to manifest numbers 0430, 0555, 1075, 1080, 1338, and 1339. EMM Semi's volume was then recalculated to be 25,170 gallons and GTE Communications' volume was recalculated to be 1,731 gallons, resulting in a combined volume of 26,901 gallons.

Motorola, Inc.

Motorola manifest number 0712 does not list a volume, but indicates that the waste was transported in a vacuum truck by Overlay's Pumping Service, Inc. Other Hassayampa manifests indicate that Overlay's vacuum trucks held 3,000 gallons. Therefore, EPA ascribed a volume of 3,000 gallons to this manifest.

U.S. Government

Two changes were made to the U.S. Government's volume. First, 2,000 gallons were added to the volume of Luke Air Force Base to reflect a 2,000 gallon manifest that was inadvertently omitted from the September 28, 1992 NBAR. In addition, EPA increased the volume associated with the Veterans Administration (VA). Manifest number 0572 indicates that the VA sent an unquantified amount of asbestos to the Hassayampa site. In the first NBAR, EPA assumed that this shipment of asbestos had a volume of 400 gallons. From a response to an information request sent to the VA, EPA has learned that the volume of this asbestos shipment was 168 cubic feet (which converts to 1,257 gallons). Therefore, EPA substituted 1,257 gallons for the 400 gallons volume originally ascribed to the VA. These changes bring the VA's volume to 1,257 gallons and Luke Air Force Base's volume to 13,700 gallons. The total volume for the U.S. Government then becomes 21,223.25 gallons.

Determinations of Financial Non-Viability

NEIC conducted research on the financial viability of each party in the volumetric ranking (see Appendix C for the financial viability analysis procedures utilized by the NEIC). Based on this research, the EPA Region IX case team provided the CEAT with the following list of financially

non-viable parties. These parties were marked as non-viable in the CEAT database and their shares were reallocated to viable parties. Non-viable parties were marked in the volumetric ranking summary with a pound sign (#).

A-Able Cesspool & Septic Tank (transporter)
AD&D Salvage and Disposal, Inc. (generator/transporter)
Arizona Septic & Ind. Control (transporter)
Fed Mart Corp. (generator/transporter)
Gary Granger (transporter)
Gilbert Nursery (generator)
Jake's Indust. Waste & Septic (transporter)
Jerry's Complete Pumping Svc. (transporter)
LaJet, Inc. (generator)
Megadyne Corporation (generator)
Norm's Silver Dipper (transporter)
Sahuaro Petroleum (generator)
Techni Finish, Inc. (generator)

Some manifests failed to identify the transporter of a shipment. For the purpose of the Transporter Volumetric Ranking, these manifests were considered orphan shares and were reallocated to the other transporters prior to the allocation of the non-viable parties' shares.

EPA Region IX's Determinations of Liability

The EPA Region IX case team decided to remove certain parties from the volumetric ranking for the purposes of the NBAR. Wayne Oxygen Co., Inc., Union Carbide Corp. Linde Div., and Liquid Air Corp. of America (collectively "lime waste generators") are involved in litigation with the Hassayampa Landfill Steering Committee. The lime waste generators allege that the lime wastes which they sent to the site were not hazardous substances. Wayne Oxygen and Union Carbide were previously sent notice letters by EPA; Liquid Air Corp. was not, as EPA had determined that general notice to Liquid Air Corp. was not appropriate based upon the pH stated on the manifests. The EPA Region IX case team concluded that excluding the lime waste generators from the NBAR would avoid the possibility of a substantial unallocated share if they are found not liable in the pending litigation. In the event that the lime waste generators are found liable, they will be subject to contribution claims by the settling PRPs.

Dave Fellars Dump Truck Svc. was indicated as a transporter in the 1988 data that exclusively transported lime wastes; Dave Fellars was deleted from the volumetric ranking along with the lime waste generators.

The Hassayampa Steering Committee's action against Velsicol Chemical Company has been dismissed, based upon a ruling that diphacinone, the active ingredient in rodenticide wastes sent to the Hassayampa Landfill by Velsicol, is not a hazardous substance under CERCLA. Velsicol was therefore removed from the volumetric ranking. As a result of Velsicol's deletion, their transporter, Parks & Sons Intermountain Inc., was also deleted from the volumetric ranking. The Hassayampa Steering Committee's action against the transporter Best Way Sewer Inc. ("Best Way") was also dismissed with prejudice based on evidence that Best Way did not select the Hassayampa site. With respect to the waste transported by Best Way, it appeared that the generator of this waste was responsible for selecting the Hassayampa site. Therefore, the volumetric share associated with the waste transported to the site by Best Way was reallocated among the other transporters.

EPA Region IX has received evidence that wastes attributed to Plymouth Tube Co. and Sola-Syntex were sent to another site, not to the Hassayampa Landfill. For this reason, the Region IX case team decided to remove these parties from the volumetric ranking in the NBAR.

The EPA Region IX case team also concluded that the potential liability of the State of Arizona as an operator of the landfill, which is alleged by the Hassayampa Steering Committee in litigation with the State, would not be considered in the NBAR. EPA Region IX has sent a notice letter to the State of Arizona as a generator of manifested waste sent to the site by the State, but has not given notice to the State as an operator. As a result, the NBAR includes the Department of Public Safety of the State of Arizona as a generator, but alleged operator liability of the State is not taken into account here. This party's entry in the volumetric ranking summary was marked with a "@" symbol. Any settlement with the State based upon the NBAR would include a release for generator liability, but would not include a release for alleged liability as an operator.

In this NBAR, the generators and the transporters are considered as separate groups, with volume apportioned on a percentage basis within those groups. A final apportionment of liability for the Hassayampa site will include a determination of the relative shares to be assigned to each of these two groups, as well as the appropriate shares to be assigned to owners and operators of the site. This apportionment depends on factors not considered in this NBAR, and is left to the parties for resolution.

Summary of Data Review and Determinations of Liability Results

As a result of the changes made during data review (see page 2) and of EPA Region IX's determinations of liability (see page 6), the following parties were deleted from the 1988 data and are no longer included in the volumetric ranking.

- **Companies deleted from the Generator Volumetric Ranking**

- ADR Ultrasound dba Advanced Technology Laboratories
- Bud's Oil Service Inc.
- Green Genie Nursery
- Liquid Air Corp. of America
- Penn Athletic Products
- Perry Rehabilitation Center
- Pierce Aviation
- Plymouth Tube Co.
- Syntex Ophthalmics
- Southwest Ink Company
- Union Carbide Corp., Linde Div.
- Velsicol Chemical Company
- Wayne Oxygen Co., Inc.

- **Companies deleted from the Transporter Volumetric Ranking**

- Bud's Oil Service Inc.
- Dave Fellars Dump Truck Svc.
- Parks & Sons Intermountain Inc.
- Pierce Aviation
- Southwest Ink Company
- Southwest Solvent
- Union Carbide Corp., Linde Div.
- Wayne Oxygen Co., Inc.

Software and Reports

To proportionally reallocate orphan shares, unallocated shares, and shares of financially non-viable parties, the CEAT developed computer programs which perform reallocation calculations (see Appendix D for the waste volume reallocation calculations).

Programs were also written to print the revised volumetric ranking summaries. The ranking summaries list each party's original contribution and demonstrate the impact of reallocation on each party's share. The ranking summaries provide the party name, original volume (from the 1988 volumetric ranking), the percentage of original total volume, the revised volume (after reallocation), and the percentage of revised total volume. The generator and transporter volumetric ranking summaries are sorted alphabetically by party name and by revised volume.

3.0 REVISED VOLUMETRIC RANKING SUMMARIES

05/24/93

HASSAYAMPA LANDFILL VOLUMETRIC RANKING SUMMARY
GENERATOR VOLUMETRIC RANKING BY REVISED VOLUME

PAGE: 10

GENERATOR	ORIGINAL VOLUME	PERCENT	REVISED VOLUME	PERCENT
HONEYWELL INFORMATION SYSTEMS	885586.0000	41.4015	900323.9782	42.0905
DIGITAL EQUIPMENT CORP.	312275.5200	14.5990	317472.4289	14.8420
SPERRY FLIGHT SYSTEMS	113000.0000	5.2828	114880.5531	5.3707
GENERAL INSTRUMENTS CORP.	106500.0000	4.9789	108272.3797	5.0618
ITT COURIER	102485.2000	4.7912	104190.7652	4.8710
ITT COURIER PCB FACILITY	(91500.0000)	(4.2777)	(93022.7488)	(4.3488)
ITT COURIER TERMINAL SYSTEMS	(10795.2000)	(0.5047)	(10974.8544)	(0.5131)
ITT COURIER	(190.0000)	(0.0089)	(193.1620)	(0.0090) +
WESTERN ELECTRIC COMPANY	65220.0000	3.0491	66305.3954	3.0998
SHELL OIL COMPANY	57155.0000	2.6720	58106.1771	2.7165
ARIZONA PUBLIC SERVICE COMPANY	54284.0000	2.5378	55187.3978	2.5800
INTEL CORPORATION	47300.0000	2.2113	48087.1696	2.2481
NATIONAL CAN CORP.	45175.0000	2.1119	45926.8052	2.1471*
GTE COMMUNICATIONS	26901.1000	1.2576	27348.7898	1.2786
EMM SEMI, INC. (TEMPE)	(25170.0000)	(1.1767)	(25588.8807)	(1.1963)
GTE COMMUNICATIONS	(1731.1000)	(0.0809)	(1759.9091)	(0.0823)
BEAN & COMPANY	23988.8000	1.1215	24388.0231	1.1401
U.S. GOVERNMENT	21223.2500	0.9922	21576.4487	1.0087
LUKE AIR FORCE BASE	(13700.0000)	(0.6405)	(13927.9963)	(0.6511)
UNITED STATES AIR FORCE	(3460.0000)	(0.1618)	(3517.5815)	(0.1644)
WILLIAMS AIR FORCE BASE	(2800.0000)	(0.1309)	(2846.5978)	(0.1331)
VETERAN'S ADMIN. MEDICAL CTR.	(1257.0000)	(0.0588)	(1277.9191)	(0.0597)
U.S.D.A. U.S. FOREST SERVICE	(6.2500)	(0.0003)	(6.3540)	(0.0003)
CONTINENTAL CIRCUITS	21000.0000	0.9818	21349.4833	0.9981
W. A. KRUEGER	19260.0000	0.9004	19580.5261	0.9154
RINCHAM COMPANY	18620.0000	0.8705	18929.8752	0.8850+
REYNOLDS METALS	14502.5000	0.6780	14743.8515	0.6893+
BECHTEL POWER CORPORATION	12251.2500	0.5728	12455.1361	0.5823
SOUTHWEST DISTRIBUTING CO.	12153.6000	0.5682	12355.8610	0.5776
AIRESEARCH MANUFACTURING CO.	11001.7400	0.5143	11184.8317	0.5229*
DEER-O PAINTS & CHEMICALS	10000.0000	0.4675	10166.4206	0.4753
SOUTHERN PACIFIC PIPELINES	10000.0000	0.4675	10166.4206	0.4753
ST. REGIS PAPER COMPANY	10000.0000	0.4675	10166.4206	0.4753
PHOENIX NEWSPAPERS, INC.	8980.0000	0.4198	9129.4457	0.4268
F & B MANUFACTURING COMPANY	7590.0000	0.3548	7716.3133	0.3607
ACTION CHEMICAL/MCKESSON CORP.	6000.0000	0.2805	6099.8524	0.2852
STANDARD OIL CO.	6000.0000	0.2805	6099.8524	0.2852
FRAZEE PAINT & WALLCOVERINGS	5600.0000	0.2618	5693.1956	0.2662
MCGRAW-EDISON INTL. METAL PROD	4715.0000	0.2204	4793.4673	0.2241
UNION MANUFACTURING INC.	4590.0000	0.2146	4666.3871	0.2182*
TEXACO INC.	4500.0000	0.2104	4574.8893	0.2139

* - Total includes waste amounts in containers that were converted to gallons.

+ - Total waste amounts are adjusted for empty containers, as set forth in Appendix A.

() - Numbers surrounded by parentheses indicate waste volumes and percentages for subsidiaries or divisions of a parent. These amounts are already reflected in the parent's totals.

05/24/93

HASSAYAMPA LANDFILL VOLUMETRIC RANKING SUMMARY
GENERATOR VOLUMETRIC RANKING BY REVISED VOLUME

PAGE: 11

GENERATOR	ORIGINAL VOLUME	PERCENT	REVISED VOLUME	PERCENT
GILBERT ENGINEERING CO. INC.	4211.7600	0.1969	4281.8524	0.2002
ROGERS CORPORATION	4100.0000	0.1917	4168.2325	0.1949*
CHEVRON U.S.A.	4000.0000	0.1870	4066.5683	0.1901
CHEVRON U.S.A.	(2000.0000)	(0.0935)	(2033.2841)	(0.0951)
CHEVRON ASPHALT U.S.A.	(2000.0000)	(0.0935)	(2033.2841)	(0.0951)
GOULD FOIL DIVISION	3600.0000	0.1683	3659.9114	0.1711
MOTOROLA, INC.	3000.0000	0.1403	3049.9262	0.1426
SHERWIN WILLIAMS CO.	2750.0000	0.1286	2795.7657	0.1307
ITT CANNON ELECTRIC	2660.0000	0.1244	2704.2679	0.1264
ARIZONA PRECISION SHEET METALS	2400.0000	0.1122	2439.9410	0.1141
TIERNAY	2290.0000	0.1071	2328.1103	0.1088
TIERNAY MANUFACTURING CO.	(1210.0000)	(0.0566)	(1230.1369)	(0.0575)
TIERNAY CASTING DIVISION	(1080.0000)	(0.0505)	(1097.9734)	(0.0513)
ARIZONA HARD CHROME	2100.0000	0.0982	2134.9483	0.0998
AAMCO TRANSMISSIONS	2000.0000	0.0935	2033.2841	0.0951
ATLANTIC RICHFIELD COMPANY	2000.0000	0.0935	2033.2841	0.0951
GENERAL SEMICONDUCTOR INC.	2000.0000	0.0935	2033.2841	0.0951
KARLSON MACHINE WORKS INC.	2000.0000	0.0935	2033.2841	0.0951
GOULD INC.	1900.0000	0.0888	1931.6199	0.0903
DAN J. OBELE	1800.0000	0.0842	1829.9557	0.0856
GOETTL AIR CONDITIONING INC.	1500.0000	0.0701	1524.9631	0.0713
ANOCAD PLATING	1210.0000	0.0566	1230.1369	0.0575
DUNN-EDWARDS CORPORATION	1000.0000	0.0468	1016.6421	0.0475
EASON & WALLER GRINDING CO.	1000.0000	0.0468	1016.6421	0.0475
MOGUL CORPORATION	858.0000	0.0401	872.2789	0.0408
ASHLAND CHEMICAL COMPANY	825.0000	0.0386	838.7297	0.0392
WESTERN DYNEX, INC.	825.0000	0.0386	838.7297	0.0392
HERMETIC REGRIGERATION	600.0000	0.0281	609.9852	0.0285
POWERINE OIL COMPANY	500.0000	0.0234	508.3210	0.0238
TREFFERS PRECISION INC.	500.0000	0.0234	508.3210	0.0238
MAACO AUTO PAINTING	492.0000	0.0230	500.1879	0.0234
BUD WEST	400.0000	0.0187	406.6568	0.0190
HUDDLESTON EQUIPMENT CO.	400.0000	0.0187	406.6568	0.0190
R.T. MFG. CO. INC./ALLIED INVESTMENT CORP.	400.0000	0.0187	406.6568	0.0190
ARIZONA DISTRIBUTION SERVICES	360.0000	0.0168	365.9911	0.0171
GOWAN COMPANY	356.0000	0.0166	361.9246	0.0169+
PRESTIGE APPARELMASTER	350.0000	0.0164	355.8247	0.0166
ROLAMECH COMPANY, INC.	330.0000	0.0154	335.4919	0.0157
FISHER HEAT TREATING INC.	300.0000	0.0140	304.9926	0.0143
ARIZONA TANK LINES	250.0000	0.0117	254.1605	0.0119
R. R. EVANS	250.0000	0.0117	254.1605	0.0119

* - Total includes waste amounts in containers that were converted to gallons.

+ - Total waste amounts are adjusted for empty containers, as set forth in Appendix A.

() - Numbers surrounded by parentheses indicate waste volumes and percentages for subsidiaries or divisions of a parent. These amounts are already reflected in the parent's totals.

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HASSAYAMPA LANDFILL VOLUMETRIC RANKING SUMMARY
 GENERATOR VOLUMETRIC RANKING BY REVISED VOLUME

PAGE: 12

GENERATOR	ORIGINAL VOLUME	PERCENT	REVISED VOLUME	PERCENT
AMERICAN PARTS SYSTEM	165.0000	0.0077	167.7459	0.0078
HELENA CHEMICAL COMPANY	141.0000	0.0066	143.3465	0.0067*
ARMOUR RESEARCH CENTER	129.0000	0.0060	131.1468	0.0061*
FARMERS AGDUSTRIES INC.	93.5000	0.0044	95.0560	0.0044+
RAMADA ENERGY SYSTEMS	40.0000	0.0019	40.6657	0.0019
BIO-LAB, INC.	36.0000	0.0017	36.5991	0.0017
AZ DEPT. PUBLIC SAFETY (CRIME)	24.1300	0.0011	24.5316	0.0011@
AMERICAN WAREHOUSE dba AMERICAN DISTRIBUTING CORP.	1.0000	0.0000	1.0166	0.0000
ADHS	0.6000	0.0000	0.6100	0.0000+
GILBERT NURSERY	8.0000	0.0004	0.0000	0.0000#
FED MART CORP.	15.0000	0.0007	0.0000	0.0000#
TECHNI FINISH INC.	1322.0000	0.0618	0.0000	0.0000#
SAHUARO PETROLEUM	1800.0000	0.0842	0.0000	0.0000#
AD&D SALVAGE AND DISPOSAL INC.	3870.0000	0.1809	0.0000	0.0000*#
LAJET, INC.	10000.0000	0.4675	0.0000	0.0000#
MEGADYNE CORPORATION	18000.0000	0.8415	0.0000	0.0000#
TOTALS:	2139020.9500	100.0000	2139020.9500	100.0000

* - Total includes waste amounts in containers that were converted to gallons.

+ - Total waste amounts are adjusted for empty containers, as set forth in Appendix A.

- These parties were determined to be financially non-viable.

@ - The alleged liability of the State of Arizona as an operator is not taken into account.

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HASSAYAMPA LANDFILL VOLUMETRIC RANKING SUMMARY
GENERATOR VOLUMETRIC RANKING BY GENERATOR NAME

PAGE: 13

<u>GENERATOR</u>	<u>ORIGINAL VOLUME</u>	<u>PERCENT</u>	<u>REVISED VOLUME</u>	<u>PERCENT</u>
AAMCO TRANSMISSIONS	2000.0000	0.0935	2033.2841	0.0951
ACTION CHEMICAL/MCKESSON CORP.	6000.0000	0.2805	6099.8524	0.2852
AD&D SALVAGE AND DISPOSAL INC.	3870.0000	0.1809	0.0000	0.0000*#
ADHS	0.6000	0.0000	0.6100	0.0000+
AIRESEARCH MANUFACTURING CO.	11001.7400	0.5143	11184.8317	0.5229*
AMERICAN PARTS SYSTEM	165.0000	0.0077	167.7459	0.0078
AMERICAN WAREHOUSE dba AMERICAN DISTRIBUTING CORP.	1.0000	0.0000	1.0166	0.0000
ANOCAD PLATING	1210.0000	0.0566	1230.1369	0.0575
ARIZONA DISTRIBUTION SERVICES	360.0000	0.0168	365.9911	0.0171
ARIZONA HARD CHROME	2100.0000	0.0982	2134.9483	0.0998
ARIZONA PRECISION SHEET METALS	2400.0000	0.1122	2439.9410	0.1141
ARIZONA PUBLIC SERVICE COMPANY	54284.0000	2.5378	55187.3978	2.5800
ARIZONA TANK LINES	250.0000	0.0117	254.1605	0.0119
ARMOUR RESEARCH CENTER	129.0000	0.0060	131.1468	0.0061*
ASHLAND CHEMICAL COMPANY	825.0000	0.0386	838.7297	0.0392
ATLANTIC RICHFIELD COMPANY	2000.0000	0.0935	2033.2841	0.0951
AZ DEPT. PUBLIC SAFETY (CRIME)	24.1300	0.0011	24.5316	0.0011@
BEAN & COMPANY	23988.8000	1.1215	24388.0231	1.1401
BECHTEL POWER CORPORATION	12251.2500	0.5728	12455.1361	0.5823
BIO-LAB, INC.	36.0000	0.0017	36.5991	0.0017
BUD WEST	400.0000	0.0187	406.6568	0.0190
CHEVRON U.S.A.	4000.0000	0.1870	4066.5683	0.1901
CHEVRON ASPHALT U.S.A.	(2000.0000)	(0.0935)	(2033.2841)	(0.0951)
CHEVRON U.S.A.	(2000.0000)	(0.0935)	(2033.2841)	(0.0951)
CONTINENTAL CIRCUITS	21000.0000	0.9818	21349.4833	0.9981
DAN J. OBELE	1800.0000	0.0842	1829.9557	0.0856
DEER-O PAINTS & CHEMICALS	10000.0000	0.4675	10166.4206	0.4753
DIGITAL EQUIPMENT CORP.	312275.5200	14.5990	317472.4289	14.8420
DUNN-EDWARDS CORPORATION	1000.0000	0.0468	1016.6421	0.0475
EASON & WALLER GRINDING CO.	1000.0000	0.0468	1016.6421	0.0475
F & B MANUFACTURING COMPANY	7590.0000	0.3548	7716.3133	0.3607
FARMERS AGDUSTRIES INC.	93.5000	0.0044	95.0560	0.0044+
FED MART CORP.	15.0000	0.0007	0.0000	0.0000#
FISHER HEAT TREATING INC.	300.0000	0.0140	304.9926	0.0143
FRAZEE PAINT & WALLCOVERINGS	5600.0000	0.2618	5693.1956	0.2662
GENERAL INSTRUMENTS CORP.	106500.0000	4.9789	108272.3797	5.0618
GENERAL SEMICONDUCTOR INC.	2000.0000	0.0935	2033.2841	0.0951
GILBERT ENGINEERING CO. INC.	4211.7600	0.1969	4281.8524	0.2002
GILBERT NURSERY	8.0000	0.0004	0.0000	0.0000#
GOETTL AIR CONDITIONING INC.	1500.0000	0.0701	1524.9631	0.0713
GOULD FOIL DIVISION	3600.0000	0.1683	3659.9114	0.1711

* - Total includes waste amounts in containers that were converted to gallons.

+ - Total waste amounts are adjusted for empty containers, as set forth in Appendix A.

- These parties were determined to be financially non-viable.

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@ - The alleged liability of the State of Arizona as an operator is not taken into account.

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HASSAYAMPA LANDFILL VOLUMETRIC RANKING SUMMARY

GENERATOR VOLUMETRIC RANKING BY GENERATOR NAME

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GENERATOR	ORIGINAL VOLUME	PERCENT	REVISED VOLUME	PERCENT
GOULD INC.	1900.0000	0.0888	1931.6199	0.0903
GOWAN COMPANY	356.0000	0.0166	361.9246	0.0169+
GTE COMMUNICATIONS	26901.1000	1.2576	27348.7898	1.2786
EMM SEMI, INC. (TEMPE)	(25170.0000)	(1.1767)	(25588.8807)	(1.1963)
GTE COMMUNICATIONS	(1731.1000)	(0.0809)	(1759.9091)	(0.0823)
HELENA CHEMICAL COMPANY	141.0000	0.0066	143.3465	0.0067*
HERMETIC REGRIGERATION	600.0000	0.0281	609.9852	0.0285
HONEYWELL INFORMATION SYSTEMS	885586.0000	41.4015	900323.9782	42.0905
HUDDLESTON EQUIPMENT CO.	400.0000	0.0187	406.6568	0.0190
INTEL CORPORATION	47300.0000	2.2113	48087.1696	2.2481
ITT CANNON ELECTRIC	2660.0000	0.1244	2704.2679	0.1264
ITT COURIER	102485.2000	4.7912	104190.7652	4.8710+
ITT COURIER	(190.0000)	(0.0089)	(193.1620)	(0.0090) +
ITT COURIER PCB FACILITY	(91500.0000)	(4.2777)	(93022.7488)	(4.3488)
ITT COURIER TERMINAL SYSTEMS	(10795.2000)	(0.5047)	(10974.8544)	(0.5131)
KARLSON MACHINE WORKS INC.	2000.0000	0.0935	2033.2841	0.0951
LAJET, INC.	10000.0000	0.4675	0.0000	0.0000#
MAACO AUTO PAINTING	492.0000	0.0230	500.1879	0.0234
MCGRAW-EDISON INTL. METAL PROD	4715.0000	0.2204	4793.4673	0.2241
MEGADYNE CORPORATION	18000.0000	0.8415	0.0000	0.0000#
MOGUL CORPORATION	858.0000	0.0401	872.2789	0.0408
MOTOROLA, INC.	3000.0000	0.1403	3049.9262	0.1426
NATIONAL CAN CORP.	45175.0000	2.1119	45926.8052	2.1471*
PHOENIX NEWSPAPERS, INC.	8980.0000	0.4198	9129.4457	0.4268
POWERINE OIL COMPANY	500.0000	0.0234	508.3210	0.0238
PRESTIGE APPARELMASTER	350.0000	0.0164	355.8247	0.0166
R. R. EVANS	250.0000	0.0117	254.1605	0.0119
R.T. MFG. CO. INC./ALLIED INVESTMENT CORP.	400.0000	0.0187	406.6568	0.0190
RAMADA ENERGY SYSTEMS	40.0000	0.0019	40.6657	0.0019
REYNOLDS METALS	14502.5000	0.6780	14743.8515	0.6893+
RINCHAM COMPANY	18620.0000	0.8705	18929.8752	0.8850+
ROGERS CORPORATION	4100.0000	0.1917	4168.2325	0.1949*
ROLAMECH COMPANY, INC.	330.0000	0.0154	335.4919	0.0157
SAHUARO PETROLEUM	1800.0000	0.0842	0.0000	0.0000#
SHELL OIL COMPANY	57155.0000	2.6720	58106.1771	2.7165
SHERWIN WILLIAMS CO.	2750.0000	0.1286	2795.7657	0.1307
SOUTHERN PACIFIC PIPELINES	10000.0000	0.4675	10166.4206	0.4753
SOUTHWEST DISTRIBUTING CO.	12153.6000	0.5682	12355.8610	0.5776
SPERRY FLIGHT SYSTEMS	113000.0000	5.2828	114880.5531	5.3707
ST. REGIS PAPER COMPANY	10000.0000	0.4675	10166.4206	0.4753
STANDARD OIL CO.	6000.0000	0.2805	6099.8524	0.2852

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- These parties were determined to be financially non-viable.

()- Numbers surrounded by parentheses indicate waste volumes and percentages for subsidiaries or divisions of a parent. These amounts are already reflected in the parent's totals.

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HASSAYAMPA LANDFILL VOLUMETRIC RANKING SUMMARY
 GENERATOR VOLUMETRIC RANKING BY GENERATOR NAME

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GENERATOR	ORIGINAL VOLUME	PERCENT	REVISED VOLUME	PERCENT
TECHNI FINISH INC.	1322.0000	0.0618	0.0000	0.0000#
TEXACO INC.	4500.0000	0.2104	4574.8893	0.2139
TIERNAY	2290.0000	0.1071	2328.1103	0.1088
TIERNAY CASTING DIVISION	(1080.0000)	(0.0505)	(1097.9734)	(0.0513)
TIERNAY MANUFACTURING CO.	(1210.0000)	(0.0566)	(1230.1369)	(0.0575)
TREFFERS PRECISION INC.	500.0000	0.0234	508.3210	0.0238
U.S. GOVERNMENT	21223.2500	0.9922	21576.4487	1.0087
LUKE AIR FORCE BASE	(13700.0000)	(0.6405)	(13927.9963)	(0.6511)
U.S.D.A. U.S. FOREST SERVICE	(6.2500)	(0.0003)	(6.3540)	(0.0003)
UNITED STATES AIR FORCE	(3460.0000)	(0.1618)	(3517.5815)	(0.1644)
VETERAN'S ADMIN. MEDICAL CTR.	(1257.0000)	(0.0588)	(1277.9191)	(0.0597)
WILLIAMS AIR FORCE BASE	(2800.0000)	(0.1309)	(2846.5978)	(0.1331)
UNION MANUFACTURING INC.	4590.0000	0.2146	4666.3871	0.2182*
W. A. KRUEGER	19260.0000	0.9004	19580.5261	0.9154
WESTERN DYNEX, INC.	825.0000	0.0386	838.7297	0.0392
WESTERN ELECTRIC COMPANY	65220.0000	3.0491	66305.3954	3.0998
TOTALS:	2139020.9500	100.0000	2139020.9500	100.0000

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() - Numbers surrounded by parentheses indicate waste volumes and percentages for subsidiaries or divisions of a parent. These amounts are already reflected in the parent's totals.

HASSAYAMPA LANDFILL VOLUMETRIC RANKING SUMMARY
TRANSPORTER VOLUMETRIC RANKING BY REVISED VOLUME

<u>TRANSPORTER</u>	<u>ORIGINAL VOLUME</u>	<u>PERCENT</u>	<u>REVISED VOLUME</u>	<u>PERCENT</u>
OVERLEY'S PUMPING SERVICE INC.	644417.3000	30.1267	1043383.4005	48.7786+*
CHEMWAY TRANSPORTATION	128902.5000	6.0262	208707.5080	9.7572+
PHIL'S PUMPING	127022.0000	5.9383	205662.7690	9.6148
ARIZONA SEWER SERVICE INC.	96540.0000	4.5133	156309.0151	7.3075
ARIZONA PETROLEUM CONTRACTORS	92500.0000	4.3244	149767.8050	7.0017
ARIZONA PUBLIC SERVICE COMPANY	54284.0000	2.5378	87891.8435	4.1090
ARIZONA PUBLIC SERVICE COMPANY	(54176.0000)	(2.5327)	(87716.9795)	(4.1008)
FAYE A. PORTER	(108.0000)	(0.0050)	(174.8640)	(0.0082)
RINCHAM COMPANY	37580.0000	1.7569	60846.2066	2.8446+
RICK'S PUMPING SERVICE	32000.0000	1.4960	51811.5650	2.4222
DIAMOND DRUM SERVICE	20697.6000	0.9676	33511.7202	1.5667
FRED'S PUMPING SERVICE INC.	17742.0000	0.8294	28726.2746	1.3430
BERSET CESSPOOL SERVICE	16095.0000	0.7524	26059.5981	1.2183
RICK'S CESSPOOL SERVICE	14000.0000	0.6545	22667.5597	1.0597
UNIVERSAL WASTE CONTROL INC.	12659.7200	0.5918	20497.4970	0.9583+*
BECHTEL POWER CORPORATION	12251.2500	0.5728	19836.1386	0.9273
WILBUR ELLIS COMPANY	3291.2000	0.1539	5328.8195	0.2491
VALLEY WASTE	2578.0000	0.1205	4174.0692	0.1951*
PHIL'S SEPTIC	2000.0000	0.0935	3238.2228	0.1514
MACHINERY ERECTION SERVICE	1257.0000	0.0588	2035.2230	0.0951
BILL'S GRADING	1211.7600	0.0567	1961.9744	0.0917
SHELL OIL COMPANY	1155.0000	0.0540	1870.0737	0.0874
MOGUL CORPORATION	858.0000	0.0401	1389.1976	0.0649
VALLEY STEEL & SUPPLY	409.0000	0.0191	662.2166	0.0310*
ARIZONA DISTRIBUTION SERVICES	360.0000	0.0168	582.8801	0.0273
GOWAN COMPANY	356.0000	0.0166	576.4037	0.0269+
ROLAMECH COMPANY, INC.	330.0000	0.0154	534.3068	0.0250
AMERICAN PARTS SYSTEM	165.0000	0.0077	267.1534	0.0125
HELENA CHEMICAL COMPANY	141.0000	0.0066	228.2947	0.0107*
VALLEY STEEL SOLID WASTE	103.0000	0.0048	166.7685	0.0078*
FARMER'S AGDUSTRIES INC.	93.5000	0.0044	151.3869	0.0071+
RAMADA ENERGY SYSTEMS	40.0000	0.0019	64.7645	0.0030
BIO-LAB, INC.	36.0000	0.0017	58.2880	0.0027
AZ DEPT. PUBLIC SAFETY (CRIME)	24.1300	0.0011	39.0692	0.0018@
TONTO NATIONAL FOREST	6.2500	0.0003	10.1194	0.0005
AIRESEARCH MANUFACTURING CO.	1.7400	0.0001	2.8173	0.0001*
A-ABLE CESSPOOL & SEPTIC TANK	1000.0000	0.0468	0.0000	0.0000#
AD&D SALVAGE AND DISPOSAL INC.	3870.0000	0.1809	0.0000	0.0000*#
ARIZONA SEPTIC & IND. CONTROL	255360.0000	11.9382	0.0000	0.0000#
BEST WAY SEWER INC.	316000.0000	14.7731	0.0000	0.0000=
FED MART CORP.	15.0000	0.0007	0.0000	0.0000#

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- These parties were determined to be financially non-viable.

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@ - The alleged liability of the State of Arizona as an operator is not taken into account.

= - This party was dismissed from litigation, see page 6.

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TRANSPORTER VOLUMETRIC RANKING BY REVISED VOLUME

<u>TRANSPORTER</u>	<u>ORIGINAL</u> <u>VOLUME</u>	<u>PERCENT</u>	<u>REVISED</u> <u>VOLUME</u>	<u>PERCENT</u>
GARY GRANGER	8.0000	0.0004	0.0000	0.0000#
JAKE'S INDUST. WASTE & SEPTIC	229900.0000	10.7479	0.0000	0.0000#
JERRY'S COMPLETE PUMPING SVC.	2500.0000	0.1169	0.0000	0.0000#
NORM'S SILVER DIPPER	6260.0000	0.2927	0.0000	0.0000#
NOT INDICATED	3000.0000	0.1403	0.0000	0.0000*
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TOTALS:	2139020.9500	100.0000	2139020.9500	100.0000
	=====	=====	=====	=====

* - Total includes waste amounts in containers that were converted to gallons.

- These parties were determined to be financially non-viable.

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HASSAYAMPA LANDFILL VOLUMETRIC RANKING SUMMARY

TRANSPORTER VOLUMETRIC RANKING BY TRANSPORTER NAME

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<u>TRANSPORTER</u>	<u>ORIGINAL</u> <u>VOLUME</u>	<u>PERCENT</u>	<u>REVISED</u> <u>VOLUME</u>	<u>PERCENT</u>
A-ABLE CESSPOOL & SEPTIC TANK	1000.0000	0.0468	0.0000	0.0000#
AD&D SALVAGE AND DISPOSAL INC.	3870.0000	0.1809	0.0000	0.0000*#
AIRESEARCH MANUFACTURING CO.	1.7400	0.0001	2.8173	0.0001*
AMERICAN PARTS SYSTEM	165.0000	0.0077	267.1534	0.0125
ARIZONA DISTRIBUTION SERVICES	360.0000	0.0168	582.8801	0.0273
ARIZONA PETROLEUM CONTRACTORS	92500.0000	4.3244	149767.8050	7.0017
ARIZONA PUBLIC SERVICE COMPANY	54284.0000	2.5378	87891.8435	4.1090
ARIZONA PUBLIC SERVICE COMPANY	(54176.0000)	(2.5327)	(87716.9795)	(4.1008)
FAYE A. PORTER	(108.0000)	(0.0050)	(174.8640)	(0.0082)
ARIZONA SEPTIC & IND. CONTROL	255360.0000	11.9382	0.0000	0.0000#
ARIZONA SEWER SERVICE INC.	96540.0000	4.5133	156309.0151	7.3075
AZ DEPT. PUBLIC SAFETY (CRIME)	24.1300	0.0011	39.0692	0.0018@
BECHTEL POWER CORPORATION	12251.2500	0.5728	19836.1386	0.9273
BERSET CESSPOOL SERVICE	16095.0000	0.7524	26059.5981	1.2183
BEST WAY SEWER INC.	316000.0000	14.7731	0.0000	0.0000=
BILL'S GRADING	1211.7600	0.0567	1961.9744	0.0917
BIO-LAB, INC.	36.0000	0.0017	58.2880	0.0027
CHEMWAY TRANSPORTATION	128902.5000	6.0262	208707.5080	9.7572+
DIAMOND DRUM SERVICE	20697.6000	0.9676	33511.7202	1.5667
FARMER'S AGDUSTRIES INC.	93.5000	0.0044	151.3869	0.0071+
FED MART CORP.	15.0000	0.0007	0.0000	0.0000#
FRED'S PUMPING SERVICE INC.	17742.0000	0.8294	28726.2746	1.3430
GARY GRANGER	8.0000	0.0004	0.0000	0.0000#
GOWAN COMPANY	356.0000	0.0166	576.4037	0.0269+
HELENA CHEMICAL COMPANY	141.0000	0.0066	228.2947	0.0107*
JAKE'S INDUST. WASTE & SEPTIC	229900.0000	10.7479	0.0000	0.0000#
JERRY'S COMPLETE PUMPING SVC.	2500.0000	0.1169	0.0000	0.0000#
MACHINERY ERECTION SERVICE	1257.0000	0.0588	2035.2230	0.0951
MOGUL CORPORATION	858.0000	0.0401	1389.1976	0.0649
NORM'S SILVER DIPPER	6260.0000	0.2927	0.0000	0.0000#
NOT INDICATED	3000.0000	0.1403	0.0000	0.0000*
OVERLEY'S PUMPING SERVICE INC.	644417.3000	30.1267	1043383.4005	48.7786+*
PHIL'S PUMPING	127022.0000	5.9383	205662.7690	9.6148
PHIL'S SEPTIC	2000.0000	0.0935	3238.2228	0.1514
RAMADA ENERGY SYSTEMS	40.0000	0.0019	64.7645	0.0030
RICK'S CESSPOOL SERVICE	14000.0000	0.6545	22667.5597	1.0597
RICK'S PUMPING SERVICE	32000.0000	1.4960	51811.5650	2.4222
RINCHEM COMPANY	37580.0000	1.7569	60846.2066	2.8446+
ROLAMECH COMPANY, INC.	330.0000	0.0154	534.3068	0.0250
SHELL OIL COMPANY	1155.0000	0.0540	1870.0737	0.0874
TONTO NATIONAL FOREST	6.2500	0.0003	10.1194	0.0005

* - Total includes waste amounts in containers that were converted to gallons.

+ - Total waste amounts are adjusted for empty containers, as set forth in Appendix A.

- These parties were determined to be financially non-viable.

()- Numbers surrounded by parentheses indicate waste volumes and percentages for subsidiaries or divisions of a parent. These amounts are already reflected in the parent's totals.

@ - The alleged liability of the State of Arizona as an operator is not taken into account.

= - This party was dismissed from litigation, see page 6.

05/24/93

HASSAYAMPA LANDFILL VOLUMETRIC RANKING SUMMARY
TRANSPORTER VOLUMETRIC RANKING BY TRANSPORTER NAME

PAGE: 19

<u>TRANSPORTER</u>	<u>ORIGINAL</u> <u>VOLUME</u>	<u>PERCENT</u>	<u>REVISED</u> <u>VOLUME</u>	<u>PERCENT</u>
UNIVERSAL WASTE CONTROL INC.	12659.7200	0.5918	20497.4970	0.9583+*
VALLEY STEEL & SUPPLY	409.0000	0.0191	662.2166	0.0310*
VALLEY STEEL SOLID WASTE	103.0000	0.0048	166.7685	0.0078*
VALLEY WASTE	2578.0000	0.1205	4174.0692	0.1951*
WILBUR ELLIS COMPANY	3291.2000	0.1539	5328.8195	0.2491
	-----	-----	-----	-----
TOTALS:	2139020.9500	100.0000	2139020.9500	100.0000
	=====	=====	=====	=====

* - Total includes waste amounts in containers that were converted to gallons.

+ - Total waste amounts are adjusted for empty containers, as set forth in Appendix A.

APPENDIX A
UNIT CONVERSION FACTORS

APPENDIX A
UNIT CONVERSION FACTORS

ARIZONA STATE CONVERSION FACTORS

The following conversion factors were obtained from the Arizona Department of Health Services (ADHS) and were used in calculating waste quantities for each transaction:

<u>Unit or Container Type (as indicated on manifests)</u>	<u>Conversion Factor (in gallons)</u>
Barrel	42.000000
Cubic Foot	7.480000
Cubic Yard	201.960000
Drum	55.000000
Fifty-five Gallon Drum	55.000000
Gallon	1.000000
Gram	0.000265
Pound	0.120000
Ton	240.000000

EMPTY CONTAINER CONVERSION FACTORS

The following conversion factors, which are 10 percent of the actual container volume, were determined by the EPA Region IX Toxics and Waste Management Division project contact for the 1988 volumetric ranking, and were used in calculating waste quantities for each transaction:

<u>Unit or Container Type (as indicated on manifests)</u>	<u>Conversion Factor (in gallons)</u>
Cubic Feet of Container	0.748000
Drum	5.500000
Five Gallon Container	0.500000
One Gallon Container	0.100000
Ten Gallon Container	1.000000

NOTE: When a conversion factor for an empty container was used in determining a party's total contribution, a plus sign (+) appears next to that party's revised percentage contribution.

UNIT CONVERSION FACTORS (concluded)

NON-STANDARD CONVERSION FACTORS

Non-standard conversion factors were those not identified on the original ADHS list but were listed on manifests without a stated capacity. The EPA Region IX case team determined that a conversion factor of one gallon should be assigned to each.

<u>Container Type (as indicated on manifests)</u>	<u>Conversion Factor (in gallons)</u>
Bag	1.000000
Carboy	1.000000
Carton	1.000000
Pad	1.000000
Solvent Bottle	1.000000

NOTE: When a non-standard conversion factor was used in calculating the total waste for a party, an asterisk (*) appears next to that party's revised percentage contribution.

APPENDIX B
VOLUMETRIC RANKING CALCULATIONS

APPENDIX B

VOLUMETRIC RANKING CALCULATIONS

The following calculations were used to convert various transaction unit types to gallons, sum each party's volume (in gallons) for all transactions, and determine each party's contribution as a relative percentage of waste at the site. These calculations were used by the CEAT in preparing the 1988 volumetric ranking.

To convert a quantity of waste to gallons, for each transaction:

$$U_Q \quad \times \quad U_{CF} \quad = \quad V_T$$

To determine the total quantity contributed by each party:

$$\sum V_T \quad = \quad V_P$$

To determine the total quantity contributed to the site by all parties:

$$\sum V_P \quad = \quad V_{\Sigma P}$$

To determine the percentage of waste contributed by each party, relative to other parties:

$$V_P \quad \div \quad V_{\Sigma P} \quad = \quad \text{Relative Percentage of Waste Contributed}$$

where,

U_Q = Total quantity of waste per transaction, expressed in units other than gallons

U_{CF} = Unit conversion factor (refer to Appendix A)

V_T = Volume of waste contributed in a single transaction, in gallons

V_P = Volume of waste contributed by a single party

$V_{\Sigma P}$ = Volume of waste contributed by all parties

APPENDIX C
PROCEDURES FOR FINANCIAL VIABILITY ANALYSIS

APPENDIX C

PROCEDURES FOR FINANCIAL VIABILITY ANALYSIS

The following procedures were utilized by NEIC during the financial analysis of the Hassayampa Landfill generators and transporters.

- The NBAR team (EPA Headquarters, EPA Region IX, NEIC, and CEAT) requested financial analyses for the Hassayampa Landfill generators and transporters (approximately 140 parties).
- The NEIC Financial Management Section analyzed Dun & Bradstreet reports for the Hassayampa Landfill parties. This review resulted in the following circumstances:
 - the identification of several parties that are no longer in existence, or that have filed bankruptcy and have a limited financial asset base.
 - the identification of parties whose Dun & Bradstreet information was either out-of-date or insufficient for determining financial viability.

When necessary, updated Dun & Bradstreet reports were obtained or, in some cases, additional information was obtained from the Secretary of State in Arizona.

- After the information was examined, only those parties that were nonexistent or legitimately in bankruptcy with no assets were determined to be financially non-viable. Parties for which no information was obtained were included as financially viable. At no time during this analysis was an "ability to pay" approach used in determining financial viability for the Hassayampa Landfill parties.

APPENDIX D
CALCULATIONS FOR REALLOCATION OF WASTE VOLUMES

APPENDIX D

CALCULATIONS FOR REALLOCATION OF WASTE VOLUMES

To proportionally reallocate waste volumetric shares among parties:

$$\left[\left(\frac{V_{OP}}{V_{R\sum P}} \right) \times V_R \right] + V_{OP} = V_{RP}$$

To determine percent responsibility of each viable party:

$$\frac{V_{RP}}{V_{O\sum P}} = \text{Revised Percent Responsibility}$$

where,

- V_{OP} = Original volume of waste contributed by a single party, prior to reallocation of orphan or non-viable party shares
- $V_{R\sum P}$ = Revised volume of waste contributed by all parties, obtained by subtracting the shares of non-viable parties from the volume contributed by all parties
- V_R = Volume of reallocable waste shares to be distributed among viable parties
- V_{RP} = Revised volume of waste contributed by a single party, after reallocation of waste shares
- $V_{O\sum P}$ = Original volume of waste contributed by all parties, prior to reallocation of orphan or non-viable party shares

Example calculation: party no. 3 is determined to be non-viable:

<u>Party</u>	<u>Original Volume</u>	<u>Original % Contribution</u>
1	700	70
2	200	20
3	100	10

$$\left[\left(\frac{700}{900} \right) \times 100 \right] + 700 = 777.78$$

$$\frac{777.78}{1000} \times 100 = 77.78\% \text{ (Revised Percent Responsibility, party no. 1)}$$

$$\left[\left(\frac{200}{900} \right) \times 100 \right] + 200 = 222.22$$

$$\frac{222.22}{1000} \times 100 = 22.22\% \text{ (Revised Percent Responsibility, party no. 2)}$$